Study #12 Projected Recreation Use

November 28, 2001

1.0 Introduction/Background

Projecting recreation use is important to help planners determine how and where to invest in recreation programs and infrastructure. Future recreation use is influenced by the same supply and demand factors as current use; supply, location and attractiveness of facilities, age, income, and population size. However, future use is also influenced by variables for which no or very little hard data exist. Future use estimates must consider less clearly defined variables such as emerging new technologies and recreation equipment, and changes in visitors' tastes and preferences for recreation. They also must consider larger changes that occur at a societal level, such as shifts in the amount of free time and disposable income, shifts in family structure, and increased ethnic diversity. As a result, most recreation forecasting efforts involve a combination of quantitative and qualitative approaches that examine multiple future scenarios and attempt to predict different use levels and needs. This study will use a combination of approaches to project recreation use.

2.0 Study Objectives

The objective of this study is to project the amount of recreation use in the Study Area for various intervals throughout the project's license term. It will consider the effects of traditional supply and demand as well as the less clearly defined variables on future use. The study results will be used to help determine when recreation facilities and areas may reach capacity, when social carrying capacity of recreation areas may be exceeded, and when user contact levels and natural resource sustainability may become critical.

3.0 Relationship to Relicensing/Need for the Study

This study is needed because Federal Energy Regulatory Commission (FERC) regulations require estimates of existing and future recreation use within the Study Area, in daytime and overnight visitation, as well as a description of the methods used to estimate use (Subpart F, Section 4.51 of 18 CFR). This study addresses Issue Statement R1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current use and future demand. It specifically addresses issues RE 1, 2, 5-17, 19-39, 55, 56, 60, 64-83, 95, 96, 104, and 105.

4.0 Study Area

The Study Area includes Lake Oroville, the lands and waters within and adjacent to (1/4 mile) the FERC project boundary, and adjacent lands, facilities, and areas with a clear project nexus. The following developed recreation areas and sites are included:

Campgrounds

Bidwell Canyon Campground Floating Campsites

Bloomer Cove Boat-In Campsite (BIC)
Bloomer Knoll BIC
Bloomer Point BIC
Bloomer Group BIC
Craig Saddle BIC
Foreman Creek BIC
Goat Ranch BIC
Lime Saddle Campground
Lime Saddle Group Campground
Loafer Creek Campground
Loafer Creek Group Campground
Loafer Creek Horse Campground
Oroville Wildlife Area (OWA) (Larkin Road Camping Area)
Thermalito North Forebay Recreational Vehicle (RV) "en route" Campground

Day Use Areas (DUAs)

Lake Oroville Visitor Center
Lime Saddle DUA
Bidwell Canyon DUA
Loafer Creek DUA
Oroville Dam Overlook Area
Spillway DUA
DUA at Burma Rd. and Lakeland Blvd.
Saddle Dam DUA
Thermalito North Forebay DUA
Thermalito South Forebay DUA
Monument Hill DUA (off Highway 162)
Thermalito Afterbay Wilbur Road DUA
Thermalito Afterbay Larkin Road DUA

Boat Launches

Lime Saddle Boat Launch Area (BLA)
Loafer Creek BLA
Bidwell Canyon BLA
Enterprise Boat Launch Ramp (BLR)
North and South Forebay BLAs
Nelson Bar Car-Top BLR
Foreman Creek Car-Top BLR
Dark Canyon Car-Top BLR
Stringtown Car-Top BLR
Vinton Gulch Car-Top BLR
Feather River within OWA

Other Recreational Facilities with Project Nexus

Floating Restrooms
Brad P. Freeman Bicycle Trail
Dan Beebe Equestrian Trail
Lake Oroville Equestrian Trail
Diversion Pool
Aquatic Center
Fish Hatchery
Clay Pit State Vehicular Recreation Area (SVRA)
Model Aircraft Flying Area

5.0 General Approach

Detailed Methodology and Analysis Procedures

This study will have quantitative and qualitative portions. The quantitative portion will use previous attendance or use data to project future use. In addition data from Study #9—Existing Recreation Use will be used to predict annual visits to the Study Area for various time periods throughout the license period.

This latter approach will use a statistical technique known as multiple regression. The qualitative portion of this study will rely on expert informed judgment to make predictions for existing as well as new recreation activities and attendance at special events. Using a qualitative approach is important because regression models used to forecast use do not consider variables such as changes in the public's tastes and preferences for recreation, emergence of new technology, or emergence of new recreation activities.

Task 1—Data Summary and Review

The first task will be to compile all relevant data. A list of preliminary sources identified to date is included in Attachment A. The research team will rely heavily on data collected via the 1992 and 1997 California Department of Parks and Recreation (DPR) statewide surveys of recreation. The team will also rely on data that will be collected at selected park units during 2002. Use data collected by Guthrie et al. (1997), Lake Oroville State Recreation Area (LOSRA) data summaries (Rischbieter 2000) and data on sailing use (Butte Sailing Club (BSC)) will also be reviewed. Qualitative sources of information will also be reviewed, such as the California State Parks Report prepared by The Dangermond Group et al. (2000).

Task 2—Past Activity Participation Assessment

This task will involve reviewing recreation activity trends for specific activities occurring in the Study Area, and then projecting them. Annual historic data, when available, will be evaluated to determine what past participation trends have been during the last decade. This information will be used as input to a time series model to perform some "straight line" projections of recreation use in the Study Area. Two important sources of information are the 1992 and 1997 DPR statewide surveys on outdoor recreation. Other sources may include LOSRA attendance summaries, fishing records from the California Department of Fish and Game (DFG), and sailing attendance figures from BSC.

Task 3—Statistical Demand Forecasting

Population growth will be estimated from the counties where visitors reside. Identification of counties will be determined by noting visitor origins in the recreation visitor questionnaire (Study #13—Recreation Surveys). Recreation visits information for 2002-03 will be provided from Study #7—Reservoir Boating Survey and Study #9. Visits will then be projected using demand and supply side variables typically employed in recreation use forecasting efforts (Cordell et al. 1990; Loomis and Walsh 1997). Population, age, and income information will be derived from the 2000 Census, or the California Department of Finance, depending on which source is most applicable to this study. Forecasts will be made for 10-year time intervals throughout the next license period.

Task 4—Regional Recreation Opportunities Assessment

This task will use results from Study #14—Assess Regional Recreation and Barriers to Recreation. It is important to understand the context of the project's recreation resources and how this will affect future use within the Study Area. This task will involve investigating and summarizing plans for future development at other comparable recreation sites within the region, and then determining how this might change the attractiveness of the Study Area.

Task 5—Expert Judgment Approach

Another method of forecasting recreation use is the expert judgment approach (Loomis and Walsh 1997). A panel of four to five recreation subject matter experts will be established. The panel will be asked to project recreation use for existing activities under several scenarios. The panel will also be asked to anticipate how future trends may drastically alter recreation use in the Study Area and/or create opportunities for new recreation activities. Some of the factors the panel will examine include:

- Changes in equipment
- Changes in technology
- Annual weather variation (drought vs. wet years, wildfires)
- Increases and decreases in discretionary income
- Amount of free time visitors have
- Shifts in family structure
- Shifts in ethnic composition of visitors
- Changes in project operations
- Changes in management of the Study Area
- Changes in supply and quality of facilities in the Study Area

Finally, the panel will examine the effects that special events and programs may have on recreation use in the Study Area.

6.0 Results and Products/Deliverables

The following products will be developed for this study:

- Interim Report
- Draft Final Report

The reports will contain an executive summary; an introduction with goals and objectives; methods; results; and a discussion identifying areas of greatest interest for future recreation development. The reports will outline implications for other studies (Studies #8, #11, #17, and #18) affected by future recreation use.

7.0 Coordination and Implementation Strategy

Coordination with Other Resource Areas/Studies

This study will require coordination with Study #1—Public Access Assessment; Study #7; Study #8—Carrying Capacity; Study #9; and Study #14. Information will be needed from Study #1 to determine if changes in travel time should be included in the regression model. Information will be needed from Study #7 to estimate current boating use. Study #8 will provide information to determine if a resource utilization limit needs to be incorporated into the model. Study #9 will provide data on uses for all non-boating activities of interest. Finally, data from Study #14 will provide insight into the relative attractiveness of the Study Area relative to other similar recreation sites within the region.

Issues, Concerns, Comments Tracking and/or Regulatory Compliance Requirements

This study addresses Issue Statement R1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current use and future demand. It specifically addresses issues RE 1, 2, 5-17, 19-39, 55, 56, 60, 64-83, 95, 96, 104, and 105.

8.0 Study Schedule

Data collection: May 2002 through April 2003.
Data analysis and report writing: May through October 2003.
Interim Report due: June 2003.
Draft Final Report due: November 2003.

9.0 References

Cordell, K., J. Bergstrom, L. Hartmann, and D. English. 1990. An Analysis of the Outdoor Recreation and Wilderness Situation in the United States, 1989-2040. General Technical Report RM-189. Fort Collins, CO. Rocky Mountain Forest and Range Experiment Station.

Dangermond Group, Dale Flowers Associates, and the California Foundation on the Economy and the Environment. 2000. California State Parks: A Path to Our Future Key Challenges and Choices. Contract report prepared for Rusty Areias, Director of California Department of Parks and Recreation.

Guthrie, R., D. A. Penland, and E. Seagle. 1997. Lake Oroville State Recreational Area Recreational Use Study. Contract report prepared for DWR, Chico State University, Chico, CA.

Loomis, J. B., and R. G. Walsh. 1997. Recreation Economic Decisions: Comparing Benefits and Costs. Second Edition. Venture Publishing, State College, PA.

Attachment A
Existing Information

1. 1992 and 1997 DPR Public Opinion Surveys on Outdoor Recreation in California
2. 2001 DPR Statewide parks survey (in developmental stage)
3. A Study of Boater Recreation on Lake Berryessa, California
4. Poe Hydroelectric Project Recreation Studies
5. Upper North Fork Feather River Project Recreation Studies
6. Lake Oroville Attendance Figures
7. LOSRA Attendance Data summaries (1995-2000)
8. Butte Sailing Club records
9. LOSRA Recreation Plan
10. DPR and DWR historical recreation plans (Bulletin 1176)
11. 1997 Chico State University Study by Guthrie et al.